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Ala Val Ile Trp Tyr Asp Gly Ser His Lys Phe Tyr Ala 50 55 60	Asp Ser Val
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn 65 70 75	Thr Leu Phe

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Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu 35 40

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser 50 55 60

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35 40 45 Ala Val Ile Trp Tyr Asp Gly Ser His Lys Tyr Tyr Ala Asp Ser Val 55 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr 75 70 8.0 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Ser Ala Arg Asp Tyr Tyr Asp Thr Ser Arg His His Trp Gly Phe Asp Cys 100 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala 120 <210> 31 <211> 521 <212> DNA <213> Homo sapiens <400> 31 cageteetqq qqetqctaat qetetqqqte cetqqateea qtqaqqaaat tqtqatqace 60 cagactecae tetecetgee egteacecet ggagageegg cetecatete etgeaggtet 120 agtcagagcc tcttggatag tgaagatgga aacacctatt tggactggta cctgcagaag 180 ccagggcagt ctccacagct cctgatctat acgctttccc atcgggcctc tggagtccca 240 gacaggttca gtggcagtgg gtcaggcact gatttcacac tgaaaatcag cagggtggag 300 gctgaggatg ttggagttta ttgctgcatg caacgtgtag agtttcctat caccttcggc 360 caagggacac gactggagat taaacgaact gtggctgcac catctgtctt catcttcccg 420

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480

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Pro Asp Aro	g Phe Ser G		Ser Gly Thr 75	Asp Phe Thr	Leu Lys 80	
Ile Ser Arg	g Val Glu A 85	la Glu Asp '	Val Gly Val 90	Tyr Cys Cys	Met Gln 95	
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Lys Arg						
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Glu Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln $_{\mbox{35}}$

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Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Phe Tyr Asn Pro Ser 50 55 60
Leu Lys Ser Arg Val Ala Ile Ser Val Asp Thr Ser Lys Asn Gln Phe 65 70 75 80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr 85 90 95
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Cys Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala 115 120 125
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420

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Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Thr Asp Ser Val 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Val Arg Asp Tyr Tyr Asp Asn Ser Arg His His Trp Gly Phe Asp Tyr 100 105 110

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Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50

Ser Arg Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 80

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Asp Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln

40

35

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys 65 70 Ile Ser Arq Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln 85 90 Arg Val Glu Phe Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile 105 Lys Arg <210> 45 <211> 546 <212> DNA <213> Homo sapiens <400> 45 6.0 qaqcaqtcqq qqqqcqqcqt qqtccaqcct qqqaqqtccc tqaqactctc ctqtqcaqcq totggattca cottcagtag ctatggcatg tactgggtcc gccaggctcc aggcaagggg 120 ctggagtggg tggcagttat atggtatgat ggaagcaata aatactatgc agactccgtg 180 aagggccgat tcaccatctc cagagacaat tccaagaaca cgctgtatct gcaaatgaac 240 agectgagag cegaggacac ggetgtgtat tactgtgega gggattteta tgatagtagt 300 cgttaccact acggtatgga cgtctggggc caagggacca cggtcaccgt ctcctcagct 360 tocaccaagg goccatoogt ettocccotg gogccotget coaggagcae etcogagage 420 acageegeee tgggetgeet ggteaaggae tactteeeeg aaceggtgae ggtgtegtgg 480 aactcaggcg ccctgaccag cggcgtgcac accttcccgg ctgtcctaca gtcctcagga 540 ctctct 546 <210> 46 <211> 124 <212> PRT

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Gly Met	Tyr Trp 35	Val Arg	g Gln Al	a Pro	Gly	Lys	Gly	Leu 45	Glu	Trp	Val	
Ala Val 50	Ile Trp	Tyr Ası	Gly Se	r Asn	Lys	Tyr	Tyr 60	Ala	Asp	Ser	Val	
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Leu Gln	Met Asn	Ser Let 85	arg Al	a Glu	Asp 90	Thr	Ala	Val	Tyr	Tyr 95	Cys	
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ccagacag												240
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ggccaagg				_		_			_			360
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Asp	Asp	Gly 35	Asn	Thr	Tyr	Leu	Asp 40	Trp	Tyr	Leu	Gln	Lys 45	Pro	Gly	Gln
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Pro 65	Asp	Arg	Phe	Ser	Gly 70	Ser	Gly	Ser	Gly	Thr 75	Asp	Phe	Thr	Leu	Lys 80
Ile	Ser	Arg	Val	Glu 85	Ala	Glu	Asp	Val	Gly 90	Val	Tyr	Tyr	Cys	Met 95	Gln
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<212> PRT

<213> Homo sapiens

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- Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val 275 280 285
- Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val 290 295
- Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser 305 \$310\$ \$315
- Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu 325 \$330\$
- Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser 340 345 350
- Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro $355 \\ 860 \\ 360$
- Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln 370 375 380
- Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala 385 $$ 390 $$ 395 $$ 400
- Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr 405 410 415
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Leu Ser Leu Gly Lys

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Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Arg Ser 35 40 45

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Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Thr Leu Ser Tyr Arg 65 70707575

Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp 85 90 95

Phe	Thr	Leu	Lys 100	Ile	Ser	Arg	Val	Glu 105	Ala	Glu	Asp	Val	Gly 110	Val	Tyr	
Tyr	Cys	Met 115	Gln	Arg	Val	Glu	Phe 120	Pro	Ile	Thr	Phe	Gly 125	Gln	Gly	Thr	
Arg	Leu 130	Glu	Ile	Lys	Arg	Thr 135	Val	Ala	Ala	Pro	Ser 140	Val	Phe	Ile	Phe	
Pro 145	Pro	Ser	Asp	Glu	Gln 150	Leu	Lys	Ser	Gly	Thr 155	Ala	Ser	Val	Val	Cys 160	
Leu	Leu	Asn	Asn	Phe 165	Tyr	Pro	Arg	Glu	Ala 170	Lys	Val	Gln	Trp	Lys 175	Val	
Asp	Asn	Ala	Leu 180	Gln	Ser	Gly	Asn	Ser 185	Gln	Glu	Ser	Val	Thr 190	Glu	Gln	
Asp	Ser	Lys 195	Asp	Ser	Thr	Tyr	Ser 200	Leu	Ser	Ser	Thr	Leu 205	Thr	Leu	Ser	
Lys	Ala 210	Asp	Tyr	Glu	Lys	His 215	Lys	Val	Tyr	Ala	Cys 220	Glu	Val	Thr	His	
Gln 225	Gly	Leu	Ser	Ser	Pro 230	Val	Thr	Lys	Ser	Phe 235	Asn	Arg	Gly	Glu	Cys 240	
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9999	gacci	tt d	caaga	aagg	ga te	gtct	cttt	g ac	cata	gaaa	ata	cage	tgt s	gtet	gacagt	240
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tcat	tgga	aga 1	ttgtg	gcca	cc ca	aaggt	cac	g act	acto	ccaa	ttgi	cac	aac 1	gtt	ccaacc	360
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geeactteae catetteaee teageeagea gaaaceeaee etacgaeaet geaggagaea 660
ataaggagag aaceeaceag eteaceattg tactettaca caacagatgg gaatgaeaee 720
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His Tyr Ser Gly Ala Val Thr Ser Met Cys Trp Asn Arg Gly Ser Cys 20 25 30

Ser Leu Phe Thr Cys Gln Asn Gly Ile Val Trp Thr Asn Gly Thr His $35 \ \ 40 \ \ 45$

Arg Arg Asp Val Ser Leu Thr Ile Glu Asn Thr Ala Val Ser Asp Ser 65 70 75 80

Gly Val Tyr Cys Cys Arg Val Glu His Arg Gly Trp Phe Asn Asp Met 85 90 95

Lys Ile Thr Val Ser Leu Glu Ile Val Pro Pro Lys Val Thr Thr Thr 100 105 110

Pro Ile Val Thr Thr Val Pro Thr Val Thr Thr Val Arg Thr Ser Thr 115 120 125

Thr Val Pro Thr Thr Thr Thr Val Pro Thr Thr Thr Val Pro Thr Thr 130 135 140

Met Ser Ile Pro Thr Thr Thr Thr Val Pro Thr Thr Met Thr Val 145 $$150\ $	Ser 160										
Thr Thr Thr Ser Val Pro Thr Thr Thr Ser Ile Pro Thr Thr Thr Thr 175 176 170 175 175 175 175 175 175 175 175 175 175											
Val Pro Val Thr Thr Thr Val Ser Thr Phe Val Pro Pro Met Pro 180 185 190	Leu										
Pro Arg Gln Asn His Glu Pro Val Ala Thr Ser Pro Ser Ser Pro 195 200 205	Gln										
Pro Ala Glu Thr His Pro Thr Thr Leu Gln Gly Ala Ile Arg Arg 210 215 220	Glu										
Pro Thr Ser Ser Pro Leu Tyr Ser Tyr Thr Thr Asp Gly Asn Asp 225 230 235	Thr 240										
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Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp $35 \hspace{1cm} 40 \hspace{1cm} 45 \hspace{1cm}$	Val										

Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Arg Xaa Xaa Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser

Ser Ala

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20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Lys Gly Arq Phe Thr Ile Ser Arq Asp Asn Ser Lys Asn Thr Leu Tyr

65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Xaa Xaa Xaa Tyr Asp Ser Ser Xaa Xaa Xaa Tyr Gly Met Asp Val

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala

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Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly 20 25 30

Gly Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu 35 40 45

Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser 50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe 65 70 75 80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr 85 90 95

Cys Ala Arq Xaa Xaa Xaa Xaa Ser Ser Ser Trp Tyr Xaa Xaa Phe Asp 100 105 110 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala 115 120 <210> 58 <211> 124 <212> PRT <213> Homo sapiens <220> <221> MISC FEATURE <222> (105)..(109) <223> Xaa is any amino acid <400> 58 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arq 10 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr 20 25 Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 40 Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val 50 55 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr 65 70 75 80 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95 Ala Arg Asp Tyr Tyr Asp Ser Ser Xaa Xaa Xaa Xaa Aaa Phe Asp Tyr 100 105 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala 115 120

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Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
Gly Arg Ile Lys Ser Lys Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala
    50
                        55
                                             60
Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65
                                        75
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
                                     90
                85
Tyr Cys Thr Xaa Xaa Asp Xaa Xaa Xaa Asp Tyr Trp Gly Gln Gly Thr
            100
                                 105
Leu Val Thr Val Ser Ser Ala
        115
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Gly Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
       35
                          40
Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser
                      55
Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe
                   70
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
               85
                                   90
Cys Ala Arg Xaa Xaa Xaa Trp Xaa Xaa Xaa Phe Asp Tyr Trp Gly Gln
           100
                              105
Gly Thr Leu Val Thr Val Ser Ser Ala
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                          120
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Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 40

Gly Arg Ile Lys Ser Lys Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala 50 55

Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr 75

Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr 90

Tyr Cys Thr Thr Xaa Xaa Xaa Ser Gly Asp Tyr Trp Gly Gln Gly Thr 100 105

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Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40

Ala Asn Ile Lys Gln Asp Gly Ser Glu Lys Tyr Tyr Val Asp Ser Val 50 55 60

Lys Gly Arq Phe Thr Ile Ser Arq Asp Asn Ala Lys Asn Ser Leu Tyr

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 90

Ala Arg Xaa Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 100 105

Ala

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Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

Ser Tyr Ile Ser Ser Ser Ser Ser Thr Ile Tyr Tyr Ala Asp Ser Val 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr 65

Leu Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys 85 90

Ala Xaa Xaa Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser 100 105 110

Ser Ala

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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
           20
                               25
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
        35
                           4.0
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50
                      55
                                         60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Xaa
Xaa Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
           100
                               105
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75

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

7.0

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro Leu 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg

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Pro Arg Leu Leu Ile Tyr Lys Ile Ser Asn Arg Phe Ser Gly Val Pro 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ala Gly Thr Asp Phe Thr Leu Lys Ile 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala 85 90 95

Thr Gln Phe Pro Xaa Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile 100 $$105\$

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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 707075

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Pro 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg

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Asp Ile Val Met Thr Gln Thr Pro Leu Ser Ser Pro Val Thr Leu Gly 1 $$ 5 $$ 10 $$ 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser 20 25 30

Asp Gly Asn Thr Tyr Leu Ser Trp Leu Gln Gln Arg Pro Gly Gln Pro 35 40 45

Pro Arg Leu Leu Ile Tyr Lys Ile Ser Asn Arg Phe Ser Gly Val Pro 50 55 60

Asp Arg Phe Ser Glv Ser Glv Ala Glv Thr Asp Phe Thr Leu Lys Ile

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala

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Arg

<210> 70

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Asp Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln 35 40

Ser Pro Gln Leu Leu Ile Tyr Thr Leu Ser Tyr Arg Ala Ser Gly Val

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys 70

Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln 85 90

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Lys Arq

<210> 71

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Tyr	Ala 50	Ala	Ser	Ser	Leu	Gln 55	Ser	Gly	Val	Pro	Ser 60	Arg	Phe	Ser	Gly	
Ser 65	Gly	Ser	Gly	Thr	Glu 70	Phe	Thr	Leu	Thr	Ile 75	Ser	Ser	Leu	Gln	Pro 80	
Glu	Asp	Phe	Ala	Thr 85	Tyr	Tyr	Cys	Leu	Gln 90	His	Asn	Ser	Tyr	Pro 95	Xaa	
Xaa	Phe	Gly	Gln 100	Gly	Thr	Lys	Leu	Glu 105	Ile	Lys	Arg					
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gcctccatct cctgcaggtc tagtcggagc ctcttggata gtgatgatgg aaacacctat
                                                                    180
ttggactggt acctgcagaa gccagggcag tctccacagc tcctgatcta cacgctttcc
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tatogggoot otggagtooc agacaggtto agtggcagtg ggtcaggcac tgatttcaca
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Asp Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln 35 40 45

Ser Pro Gln Leu Leu Ile Tyr Thr Leu Ser Tyr Arg Ala Ser Gly Val50

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys 65 $$ 70 $$ 75 $$ 80

Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln 85 90 95

Arg Val Glu Phe Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile 100 \$105\$

Lys Leu Ser Ala Asp Asp Ala Lys Lys Asp Ala Ala Lys Lys Asp Asp 115 120 125

Ala Lys Lys Asp Asp Ala Lys Lys Asp Leu Gln Val Gln Leu Val Glu

130 135 140

Ser Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys

Ala Ala Ser Gly Phe Ile Phe Ser Arg Tyr Gly Met His Trp Val Arg

180	p Tyr Asp O
Gly Ser Asn Lys Leu Tyr Ala Asp Ser Val Lys Gly Arg Ph 195 200 205	e Thr Ile
Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met As 210 220	n Ser Leu
Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ty 225 230 235	r Tyr Asp 240
Asn Ser Arg His His Trp Gly Phe Asp Tyr Trp Gly Gln Gl $$245$$	y Thr Leu 255
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cagcetggga ggtecetgag acteteetgt geagegtetg gatteatett eagtegetat 540 qqcatqcact qqqtccqcca qqctccaqqc aaqqqqctqa aatqqqtqqc aqttatatqq 600 tatgatggaa gtaataaact ctatgcagac teegtgaagg geegattcac catetecaga 660 qacaattcca aqaacacqct gtatctqcaa atqaacaqcc tqaqaqccqa qqacacqqct 720 qtqtattact qtgcgaqaga ttactatqat aataqtaqac atcactqggg gtttqactac 780 tqqqqccaqq qaaccctqqt caccqtctcc tcaqqaqqtq qtqqatccqa tatcaaactq 840 caqcaqtcaq qqqctqaact qqcaaqacct qqqqcctcaq tqaaqatqtc ctqcaaqact 900 totgqctaca cotttactaq qtacacqatq cactqqqtaa aacaqaqqcc tqqacaqqqt 960 ctqqaatqqa ttqqatacat taatcctaqc cqtqqttata ctaattacaa tcaqaaqttc 1020 1080 aaqqacaaqq ccacattqac tacaqacaaa tcctccaqca caqcctacat qcaactqaqc agectgacat etgaggacte tgcagtetat tactgtgcaa gatattatga tgateattae 1140 tgccttgact actggggcca aggcaccact ctcacagtct cctcagtcga aggtggaagt 1200 ggaggttetg gtggaagtgg aggtteaggt ggagtegaeg acatteaget gacceagtet 1260 ccaqcaatca tqtctqcatc tccaqqqqaq aaqqtcacca tqacctqcaq aqccaqttca 1320 aqtqtaaqtt acatqaactq qtaccaqcaq aaqtcaqqca cctcccccaa aaqatqqatt 1380 tatqacacat ccaaaqtqqc ttctqqaqtc ccttatcqct tcaqtqqcaq tqqqtctqqq 1440 acctcatact ctctcacaat caqcaqcatq qaqqctqaaq atqctqccac ttattactqc 1500 1560 caacaqtqqa qtaqtaaccc qctcacqttc qqtqctqqqa ccaaqctqqa qctqaaataq

Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Thr Pro Gly
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Asp Ser 20 25 30

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Ser Val Lys Met Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Arg Tyr

- Thr Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile 290 295 300
- Lys Asp Lys Ala Thr Leu Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr 325 330 335
- Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys 340 345 350
- Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly 355 360 365
- Thr Thr Leu Thr Val Ser Ser Val Glu Gly Gly Ser Gly Gly Ser Gly 370 \$375\$
- Gly Ser Gly Gly Ser Gly Gly Val Asp Asp Ile Gln Leu Thr Gln Ser 385 \$390\$ 395 400
- Pro Ala Ile Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys \$405\$ \$410\$ \$410
- Arg Ala Ser Ser Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys Ser $420 \hspace{1.5cm} 425 \hspace{1.5cm} 430 \hspace{1.5cm}$
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- Gly Val Pro Tyr Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser 450 $\,$ 450 $\,$
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tcto	etca	caa 1	cago	cagca	at go	gaggo	etgaa	a gat	gcts	gcca	ctta	attac	etg o	ccaac	cagtgg	
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Glu	Pro	Ala	Ser 20	Ile	Ser	Cys	Arg	Ser 25	Ser	Arg	Ser	Leu	Leu 30	Asp	Ser	
Asp	Asp	Gly 35	Asn	Thr	Tyr	Leu	Asp 40	Trp	Tyr	Leu	Gln	Lys 45	Pro	Gly	Gln	
Ser	Pro 50	Gln	Leu	Leu	Ile	Tyr 55	Thr	Leu	Ser	Tyr	Arg 60	Ala	Ser	Gly	Val	
Pro 65	Asp	Arg	Phe	Ser	Gly 70	Ser	Gly	Ser	Gly	Thr 75	Asp	Phe	Thr	Leu	Lys 80	
Ile	Ser	Arg	Val	Glu 85	Ala	Glu	Asp	Val	Gly 90	Val	Tyr	Tyr	Cys	Met 95	Gln	
Arg	Val	Glu	Phe 100	Pro	Ile	Thr	Phe	Gly 105	Gln	Gly	Thr	Arg	Leu 110	Glu	Ile	
Lys	Leu	Ser 115	Ala	Asp	Asp	Ala	Lys 120	Lys	Asp	Ala	Ala	Lys 125	Lys	Asp	Asp	
Ala	Lys 130	Lys	Asp	Asp	Ala	Lys 135	Lys	Asp	Leu	Gln	Val 140	Gln	Leu	Val	Glu	
Ser 145	Gly	Gly	Gly	Val	Val 150	Gln	Pro	Gly	Arg	Ser 155	Leu	Arg	Leu	Ser	Cys 160	
Ala	Ala	Ser	Gly	Phe	Ile	Phe	Ser	Arg	Tyr 170	Gly	Met	His	Trp	Val 175	Arg	

Gln Ala Pro Gly Lys Gly Leu Lys Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Leu Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Tyr Tyr Asp Asn Ser Arq His His Trp Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu 245 250 Val Thr Val Ser Ser Gly Gly Gly Ser Asp Ile Lys Leu Gln Gln Ser Gly Ala Glu Leu Ala Arg Pro Gly Ala Ser Val Lys Met Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Arg Tyr Thr Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arq Gly Tyr Thr Asn Tyr Asn Gln Lys Phe Lys Asp Lys Ala Thr Leu 325 330 335 Thr Thr Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu 340 345 Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Leu Ser Ala Asp Asp Ala Lys Lys Asp Ala Ala Lys Lys Asp Asp

Ala Lys Lys	Asp Asp 405	Ala Lys	Lys Asp	Leu Asp 410	Ile Gln	Leu Thr Gln 415
Ser Pro Ala	Ile Met 420	Ser Ala	Ser Pro 425		Lys Val	Thr Met Thr 430
Cys Arg Ala 435	Ser Ser	Ser Val	Ser Tyr 440	Met Asn	Trp Tyr 445	Gln Gln Lys
Ser Gly Thr 450	Ser Pro	Lys Arg 455	Trp Ile	Tyr Asp	Thr Ser	Lys Val Ala
Ser Gly Val 465	Pro Tyr	Arg Phe 470	Ser Gly	Ser Gly 475	Ser Gly	Thr Ser Tyr 480
Ser Leu Thr	Ile Ser 485	Ser Met	Glu Ala	Glu Asp 490	Ala Ala	Thr Tyr Tyr 495
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Leu Glu Leu 515	Lys Asp	Tyr Lys	Asp Asp 520	Asp Asp	Lys	
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Lys Pro Ser	Glu Thr 20	Leu Ser	Leu Thr 25	Cys Thr	Val Ser	Gly Gly Ser 30
Val Ser Ser 35	Gly Gly	Tyr Tyr	Trp Ser	Trp Ile	Arg Gln 45	Pro Pro Gly
Lys Gly Leu 50	Glu Trp	Ile Gly 55	Phe Ile	Tyr Tyr	Thr Gly	Ser Thr Asn
Tyr Asn Pro	Ser Leu	Lys Ser	Arg Val	Ser Ile	Ser Val	Asp Thr Ser

Lvs Asn Gln Phe Ser Leu Lvs Leu Ser Ser Val Thr Ala Ala Asp Ala Ala Val Tyr Tyr Cys Ala Arg Asp Tyr Asp Trp Ser Phe His Phe Asp 100 105 110 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys 120 Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu 130 135 140 Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro 150 155 Val Thr Val Ser Trp Asn Ser Glv Ala 165 <210> 115 <211> 168 <212> PRT <213> Homo sapiens <400> 115 Gln Leu Leu Gly Leu Leu Leu Trp Phe Pro Gly Ala Arg Cys Asp 10 Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Gly Asp 20 25 30 Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp Leu 35 40 Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser 7.0 Glv Ser Glv Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu 85 90

Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala <210> 116 <211> 156 <212> PRT <213> Homo sapiens <400> 116 Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Asn Tyr Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Asn Ile Gln Gln Asp Gly Ser Glu Lys Tyr Tyr Val Asp Ser Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Trp Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys

Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys 130 135 Asp Tyr Phe Pro Glu Pro Val Ser Gly Val Val Glu 145 150 <210> 117 <211> 151 <212> PRT <213> Homo sapiens <400> 117 Leu Leu Gly Leu Leu Met Leu Trp Val Pro Gly Ser Ser Gly Asp Ile 5 10 15 Val Met Thr Gln Thr Pro Leu Ser Ser Thr Val Ile Leu Gly Gln Pro 20 25 Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser Asp Gly 40 Asn Thr Tyr Leu Asn Trp Leu Gln Gln Arg Pro Gly Gln Pro Pro Arg 55 Leu Leu Ile Tyr Met Ile Ser Asn Arg Phe Ser Gly Val Pro Asp Arg 7.0 Phe Ser Gly Ser Gly Ala Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg 85 90 95 Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala Thr Glu 100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu 130 140

Ser Pro Gln Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr

Lys Ser Gly Arg Ala Ser Val 145 150

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Trp Met Thr Trp Val Arq Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                        40
Gly Arq Ile Lys Arq Arq Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala
                     55
Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
                 70
                                   75
Leu Tyr Leu Gln Met Asn Asn Leu Lys Asn Glu Asp Thr Ala Val Tyr
             85
Tyr Cys Thr Ser Val Asp Asn Asp Val Asp Tyr Trp Gly Gln Gly Thr
         100
                           1.05
                                             110
Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
       115
                        120 125
Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly
               135
Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
145
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Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln

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Ser Ser Gly Leu
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                 10 15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
         20
                          25
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
                       40
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
                    55
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65
Ser Arg Val Glu Ala Glu Asp Ile Gly Leu Tyr Tyr Cys Met Gln Ala
             85
                               90 95
Leu Gln Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Asp Ile Lys
          100
                                  110
                           105
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
     115
               120
Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
   130
                  135
                                     140
Tyr Pro Arg Glu Ala Lys Val Gln
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr 20 25 30

Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val \$35\$

Ser Tyr Ile Arg Ser Ser Thr Ser Thr Ile Tyr Tyr Ala Glu Ser Leu 50 60

Lys Gly Arg Phe Thr Ile Ser Ser Asp Asn Ala Lys Asn Ser Leu Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser 115 $$\rm 120$$

Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp 130 140

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr 145 \$150\$ \$155\$

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr \$165\$ \$170\$ \$175\$

Ser Leu Ser

<210> 121

<211> 163

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<213> Homo sapiens

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Glu Ile Gln Leu Thr Gln Ser Pro Leu Ser Ser Pro Val Thr Leu Gly 1 $$ 5 $$ 10 $$ 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser 20 25 30

Asp Gly Asp Thr Tyr Leu Asn Trp Leu Gln Gln Arg Pro Gly Gln Pro 35 40 45

Pro Arg Leu Leu Ile Tyr Lys Ile Ser Thr Arg Phe Ser Gly Val Pro 50 60

Asp Arg Phe Ser Gly Ser Gly Ala Gly Thr Asp Phe Thr Leu Lys Ile 65 70 75 80

Ser Arg Val Glu Thr Asp Asp Val Gly Ile Tyr Tyr Cys Met Gln Thr 85 90 95

Thr Gln Ile Pro Gln Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile 100 105 110

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp 115 120 125

Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn 130 135 140

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu 145 150 155 160

Gln Ser Gly

<210> 122

<211> 189 <212> PRT

<213> Homo sapiens

<400> 122

Gln Val Gln Leu Glu Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arq

1	5	10	15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Lys Trp Val \$35\$

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Arg Asp Tyr Tyr Asp Asn Ser Arg His His Trp Gly Phe Asp Tyr $100 \\ 105 \\ 110$

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly $115 \\ 120 \\ 125$

Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser 130 $$140\$

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val 145 \$150\$

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe \$165\$

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser 180 185

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<213> Homo sapiens

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Gly	Leu	His 35	Trp	Val	Arg	Gln	Ala 40	Pro	Gly	Lys	Gly	Leu 45	Asp	Trp	Val
Ala	Val 50	Ile	Trp	Tyr	Asp	Gly 55	Ser	His	Lys	Phe	Tyr 60	Ala	Asp	Ser	Val
Lys 65	Gly	Arg	Phe	Thr	Ile 70	Ser	Arg	Asp	Asn	Ser 75	Lys	Asn	Thr	Leu	Phe 80
Leu	Gln	Met	Asn	Ser 85	Leu	Arg	Ala	Glu	Asp 90	Thr	Ala	Val	Tyr	Tyr 95	Cys
Thr	Arg	Asp	Leu 100	Asp	Tyr	Trp	Gly	Gln 105	Gly	Thr	Leu	Val	Thr 110	Val	Ser
Ser	Ala	Ser 115	Thr	Lys	Gly	Pro	Ser 120	Val	Phe	Pro	Leu	Ala 125	Pro	Cys	Ser
Arg	Ser 130	Thr	Ser	Glu	Ser	Thr 135	Ala	Ala	Leu	Gly	Cys 140	Leu	Val	Lys	Asp
Tyr 145	Phe	Pro	Glu	Pro	Val 150	Thr	Val	Ser	Trp	Asn 155	Ser	Gly	Ala	Leu	Thr 160
Ser	Gly	Val	His	Thr 165	Phe	Pro	Ala	Val	Leu 170	Gln	Ser	Ser	Gly	Leu 175	Tyr
Ser	Leu	Ser													
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Glu Arg Val Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Asn 20 25 Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arq Ala Thr Gly Ile Pro Asp Arg Phe Ser 55 Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Cys Ala Glu Cys Tyr Cys Gln Gln Tyr Gly Ser Ser Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val 100 105 Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys 115 120 Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arq 130 135 140 Glu Ala Lys Val Gln Trp Glu Gly Gly Ile Thr Pro Ser Asn Arg Val <210> 128 <211> 180 <212> PRT <213> Homo sapiens <220> <221> MISC_FEATURE <222> (62)..(62) <223> Xaa is Tyr or Leu <220> <221> MISC FEATURE <222> (64)..(64) <223> Xaa is Ala or Thr <400> 128 Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln 5 10

Pro Gly Arg	Ser Leu 20	Arg Leu	Ser Cys 25	Ala Ala	Ser Gly	Phe Thr	Phe
Ser Ser Tyr 35	Gly Met	His Trp	Val Arg 40	Gln Ala	Pro Gly 45	Lys Gly	Leu
Glu Trp Val	Ala Val	Ile Trp 55	Tyr Asp	Gly Ser	His Lys	Xaa Tyr	Xaa
Asp Ser Val	Lys Gly	Arg Phe	Thr Ile	Ser Arg 75	Asp Asn	Ser Lys	Asn 80
Thr Leu Tyr	Leu Gln 85	Met Asn	Ser Leu	Arg Ala 90	Glu Asp	Thr Ala 95	Val
Tyr Tyr Ser	Ala Arg 100	Asp Tyr	Tyr Asp 105	Thr Ser	Arg His	His Trp 110	Gly
Phe Asp Cys 115	Trp Gly	Gln Gly	Thr Leu 120	Val Thr	Val Ser 125	Ser Ala	Ser
Thr Lys Gly	Pro Ser	Val Phe 135	Pro Leu	Ala Pro	Cys Ser 140	Arg Ser	Thr
Ser Glu Ser 145	Thr Ala	Ala Leu 150	Gly Cys	Leu Val 155	Lys Asp	Tyr Phe	Pro 160
Glu Pro Val	Thr Val 165	Ser Trp	Asn Ser	Gly Ala 170	Leu Thr	Ser Gly 175	Val
His Thr Phe	Pro 180						
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Gln Leu Leu 1	Gly Leu 5	Leu Met	Leu Trp	Val Pro 10	Gly Ser	Ser Glu 15	Glu

Ile Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Thr Pro Gly Glu

20 25 30

Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser Glu 35 40 45

Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser 50 55 60

Pro Gln Leu Leu Ile Tyr Thr Leu Ser His Arg Ala Ser Gly Val Pro 65 70 75 80

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile $85 \hspace{0.5in} 90 \hspace{0.5in} 95$

Val Glu Phe Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys 115 $$\rm 120$$

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu 130 135 140

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe 145 150 155 160

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn 165 170

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<222> (1)..(5)

<223> Xaa is any amino acid

<400> 130

Thr Leu Ser Leu Thr Cvs Thr Val Ser Glv Glv Ser Ile Ser Ser Asp

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Gly Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu 40

Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Phe Tyr Asn Pro Ser 55

Leu Lys Ser Arg Val Ala Ile Ser Val Asp Thr Ser Lys Asn Gln Phe 70

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr 85 90 95

Cys Ala Arg Glu Ser Pro His Ser Ser Asn Trp Tyr Ser Gly Phe Asp 100 105

Cys Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys 120

Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu 130 135 140

Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Arg Thr 145 150 155

Gly Asp Gly Val Val Glu Leu Arg Arg Pro Asp Gln Arg Arg Ala His 165 170 175

Leu Pro Gly Cys Pro Thr Val Leu Arg Thr Leu 180

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<222> (1)..(4)

<223> Xaa is any amino acid

<400> 131

Xaa Xaa Xaa Xaa Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys

1	5	10	15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Arg $20 \\ 25 \\ 30$

Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile $35 \ \ \, 40 \ \ \, 45$

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala 65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Ser Ser Asn Leu Pro Phe 85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala 100 \$105\$

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly 115 \$120\$

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu 145

<210> 132

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<223> Xaa is Tyr or Leu

<400> 132

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Ser	Leu	Arg	Leu 20	Ser	Cys	Ala	Ala	Ser 25	Gly	Phe	Thr	Phe	Arg 30	Ser	Tyr
Gly	Met	His 35	Trp	Val	Arg	Gln	Ala 40	Pro	Gly	Lys	Gly	Leu 45	Lys	Trp	Val
Ala	Val 50	Ile	Trp	Tyr	Asp	Gly 55	Ser	Asn	Lys	Xaa	Tyr 60	Thr	Asp	Ser	Val
Lys 65	Gly	Arg	Phe	Thr	Ile 70	Ser	Arg	Asp	Asn	Ser 75	Lys	Asn	Thr	Leu	Tyr 80
Leu	Gln	Met	Asn	Ser 85	Leu	Arg	Ala	Glu	Asp 90	Thr	Ala	Val	Tyr	Tyr 95	Cys
Val	Arg	Asp	Tyr 100	Tyr	Asp	Asn	Ser	Arg 105	His	His	Trp	Gly	Phe 110	Asp	Tyr
Trp	Gly	Gln 115	Gly	Thr	Leu	Val	Thr 120	Val	Ser	Ser	Ala	Ser 125	Thr	Lys	Gly
Pro	Ser 130	Val	Phe	Pro	Leu	Ala 135	Pro	Cys	Ser	Arg	Ser 140	Thr	Ser	Glu	Ser
Thr 145	Ala	Ala	Leu	Gly	Cys 150	Leu	Val	Lys	Asp	Tyr 155	Phe	Pro	Glu	Pro	Val 160
Thr	Val	Ser	Trp	Asn 165	Ser	Gly	Ala	Leu	Thr 170	Arg	Arg	Arg	Ala	His 175	Leu
Pro	Gly														
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Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Arg	Cys	Ala	Ser	Val	Gly

Asp Arg Val Thr Ile Thr Cvs Arg Ala Ser Gln Glv Ile Arg Asn Asp 20 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arq Leu Ile 4.0 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 55 Ser Arg Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 70 65 75 Glu Asp Phe Ala Ala Tvr Tvr Cvs Leu Gln His Asn Ser Tvr Pro Pro 90 Ser Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala 100 105 Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly 115 120 125 Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala 130 135 140 Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser 145 150 <210> 134 <211> 171 <212> PRT <213> Homo sapiens <400> 134 His Val Gln Val Gln Leu Val Glu Ser Gly Gly Val Val Gln Pro 10 Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ile Phe Ser 20 25 Arg Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Lys

40

Trp	Val 50	Ala	Val	Ile	Trp	Tyr 55	Asp	Gly	Ser	Asn	Lys 60	Leu	Tyr	Ala	Asp
Ser 65	Val	Lys	Gly	Arg	Phe 70	Thr	Ile	Ser	Arg	Asp 75	Asn	Ser	Lys	Asn	Thr 80
Leu	Tyr	Leu	Gln	Met 85	Asn	Ser	Leu	Arg	Ala 90	Glu	Asp	Thr	Ala	Val 95	Tyr
Tyr	Cys	Ala	Arg 100	Asp	Tyr	Tyr	Asp	Asn 105	Ser	Arg	His	His	Trp 110	Gly	Phe
Asp	Tyr	Trp 115	Gly	Gln	Gly	Thr	Leu 120	Val	Thr	Val	Ser	Ser 125	Ala	Ser	Thr
Lys	Gly 130	Pro	Ser	Val	Phe	Pro 135	Leu	Ala	Pro	Сув	Ser 140	Arg	Ser	Thr	Ser
Glu 145	Ser	Thr	Ala	Ala	Leu 150	Gly	Cys	Leu	Val	Lys 155	Asp	Tyr	Phe	Pro	Glu 160
Pro	Val	Thr	Val	Ser 165	Trp	Asn	Ser	Gly	Ala 170	Leu					
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Ser 1	Ala	Pro	Gly	Ala 5	Ala	Asn	Ala	Leu	Gly 10	Pro	Trp	Ile	Ser	Glu 15	Asp
Ile	Val	Met	Thr 20	Gln	Thr	Pro	Leu	Ser 25	Leu	Pro	Val	Thr	Pro 30	Gly	Glu
Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Arg	Ser	Leu	Leu	Asp	Ser	Asp

Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser $50 \\ 0 \\ 60$

40

35

Pro Gln Leu Leu Ile Tyr Thr Leu Ser Tyr Arg Ala Ser Gly Val Pro 65 70 75 80

Asp Arg Phe Ser Glv Ser Glv Ser Glv Thr Asp Phe Thr Leu Lvs Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Arg 105 110 Val Glu Phe Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys 120 Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu 135 130 140 Gln Leu Lys Ser Glv Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe 150 155 Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala 165 170 <210> 136 <211> 186 <212> PRT <213> Homo sapiens <220> <221> MISC FEATURE <222> (1)..(4) <223> Xaa is any amino acid <400> 136 Xaa Xaa Xaa Xaa Glu Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg 5 10 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr 20 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val 55 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr

75

80

65

7.0

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tvr Tvr Cvs Ala Arg Asp Phe Tyr Asp Ser Ser Arg Tyr His Tyr Gly Met Asp Val 100 105 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly 120 Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser 130 135 140 Thr Ala Ala Leu Glv Cvs Leu Val Lvs Asp Tvr Phe Pro Glu Pro Val 150 155 Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe 165 170 Pro Ala Val Leu Gln Ser Ser Gly Leu Ser 180 185 <210> 137 <211> 143 <212> PRT <213> Homo sapiens <220> <221> MISC_FEATURE <222> (1)..(4) <223> Xaa is any amino acid <400> 137 Xaa Xaa Xaa Thr Gln Cys Pro Leu Ser Leu Pro Val Thr Pro Gly 10 Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser 20 25 Asp Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln 35 40

60

Ser Pro Gln Leu Leu Ile Tyr Thr Val Ser Tyr Arg Ala Ser Gly Val

55

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Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys
65
                    70
Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln
              85
Arg Ile Glu Phe Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile
           100
                                105
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
        115
                            120
                                                 125
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
    130
                        135
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Glv Phe Thr Phe Thr Asn Tvr Glv Leu His
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Val Ile Trp Tyr Asp Gly Ser His Lys Phe Tyr Ala Asp Ser Val Lys
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                                    10
                                                         15
Glv
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Asp Leu Asp Tyr
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Gly Ala Ser Ser Arg Ala Thr
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Gln Gln Tyr Gly Ser Ser Leu Pro Leu Thr
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Gly Phe Thr Phe Ser Ser Tyr Gly Met Tyr
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Gly
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Asp
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Thr Val Ser Tyr Arg Ala Ser
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Met Gln Arg Ile Glu Phe Pro Ile Thr
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Gly Gly Ser Ile Ser Ser Asp Gly Tyr Tyr Trp Ser
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Tyr Ile Tyr Tyr Ser Gly Ser Thr Phe Tyr Asn Pro Ser Leu Lys Ser
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                                                         15
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Glu Ser Pro His Ser Ser Asn Trp Tyr Ser Gly Phe Asp Cys
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Tyr Ala Ser Gln Ser Phe Ser
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Asp
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Met Gln Arg Val Glu Phe Pro Ile Thr
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Gly Phe Thr Phe Ser Arg Tyr Gly Met His
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Arg Ala Ser Gln Ser Ile Tyr Ser Tyr Leu Asn
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Ala Ala Ser Ser Leu Gln Ser
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Gly Phe Thr Phe Arg Ser Tyr Gly Met His
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1 10 15
Gly
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                                  10
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<400> 169
Leu Gln His Asn Ser Tyr Pro Pro Ser
1 5
<210> 170
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Gly Phe Thr Phe Ser Ser Tyr Gly Met His
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Gly
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Asp Tyr Tyr Asp Thr Ser Arg His His Trp Gly Phe Asp Cys
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                                    10
Asp
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Val Lys Gly
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Val Asp Asn Asp Val Asp Tyr
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                                   10
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Met Gln Ala Leu Gln Thr Pro Leu Thr
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Gly Gly Ser Val Ser Ser Gly Gly Tyr Tyr Trp Ser
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<211> 16
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Phe Ile Tyr Tyr Thr Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser
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